

REMARKS

The following remarks are being submitted as a full and complete response to the Office Action dated March 18, 2011 (U.S. Patent Office Paper No. 20110310). In view of the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-24 stand for consideration in this application. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Formality Rejections

The Examiner rejected 1-24 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In particular, with respect to independent claims 1 and 14, the Examiner asserts that “the drawings and specification as originally filed fail to provide support for [a] single feed water line” for both “(1) leading water from pressure chamber to instrument, and (2) leading water from water source, e.g. reservoir chamber, into the pressure chamber” as similarly described in claims 1 and 14. (Office Action, p. 2). Applicants respectfully disagree.

In particular, Applicants note that the specification explicitly describes embodiments of the invention in terms of “a feed water line 10” that extends within a dental unit from a point upstream of a pressure chamber 12, which is described as being provided within and thereby connected to the feed water line 10, to water outlet points that are downstream of the pressure chamber 12. For example, with respect to the embodiments illustrated in Figures 2 and 3, paragraphs [0011], [0016], and [0021] of the present application as originally filed explicitly describe the feed water line 10 in these terms. Moreover, Figures 2 and 3 both very clearly illustrate the feed water line 10 as extending within a dental unit from a point upstream of a pressure chamber 12 to water outlet points that are downstream of the pressure chamber 12 and label the feed water line 10 at points both upstream and downstream of the pressure chamber 12.

In addition, while Figures 2 and 3 both illustrate embodiments of dental units in the feed water line 10 comprises multiple physical components, the feed water line 10 is very clearly described in the specification of the present as originally filed as comprising the

components along the path from upstream of a pressure chamber 12, which is described as being provided within and thereby connected to the feed water line 10, to water outlet points that are downstream of the pressure chamber 12, regardless of how the components that comprise the feed water line 10 are implemented to interoperate. Moreover, Applicants further note that, even were the specification of the present application to describe the feed water line 10 in terms of different feed water line components that upstream and downstream of the pressure chamber, the notion that the indefinite article ‘a’ or ‘an’ carries the meaning of ‘one or more’ in open-ended claims containing the transitional phrase ‘comprising’ is a well-accepted canon of claim interpretation under U.S. patent law. *See KJC Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000).

With respect to claims 11 and 22, the Examiner asserts that the similar recitation in each of these claims of “a branch line arranged in the feed water line downstream of the pressure chamber” contradicts “with the independent claims 1’s and 14’s feed line being upstream of the pressure chamber.” (Office Action, p. 2) (emphasis in original). The Examiner further asserts that “the originally filed drawings and specification do not have support for such branch line in the feed water line being downstream of the pressure chamber as claimed. (Office Action, p. 2). Applicants respectfully disagree.

In particular, Applicants first note that claim 1 specifically recites “a pump arranged along the feed water line upstream of the pressure chamber.” (Emphasis added). With respect to the pressure chamber, claim 1 describes that the pressure chamber is “in connection with the feed water line.” Claim 1 only specifies a pump that is arranged upstream of the pressure chamber and does not include any language intended to specify the feed water line as being limited to only points upstream of the pressure chamber. Thus, it is clear that the description of branch line as similarly provided in claims 11 and 22 does not contradict with similar description of the feed water lines provided in claims 1 and 14 respectively.

Moreover, Applicants note that an example of “a branch line arranged in the feed water line downstream of the pressure chamber leading to said reservoir chamber” is very clearly described in paragraph [0021] of the present application as originally filed with respect to the embodiment illustrated in Figure 3.

Accordingly, in view of the clear support for the claimed recitations of “a feed water line” and “a branch line arranged in the feed water line downstream of the pressure chamber leading to the reservoir chamber” within the drawings and the specification of the present application of the present application as originally filed, Applicants respectively submit that

the subject matter of claims 1-24 is described in the specification at least in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Applicants therefore respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §112, first paragraph.

Prior Art Rejections

The Examiner rejected claims 1-7, 12-18, and 23 under 35 U.S.C. §103(a) as being unpatentable over Holsclaw (U.S. Patent No. 6,482,370) in view of Scott (U.S. Patent No. 3,363,570). The Examiner rejected claims 8-11, 19-22, and 24 under 35 U.S.C. §103(a) as being unpatentable over Holsclaw in view of Scott, and in further view of Yamada (U.S. Patent No. 5,151,731). Applicants have reviewed the above-noted rejections, and hereby respectfully traverse.

A proper obviousness rejection that relies on a combination of prior art elements requires establishing that the prior art references, when combined, teach or suggest all of the claim limitations. MPEP §2143. Furthermore, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). That is, to render a claim obvious under 35 U.S.C. §103, a determination must be made that the claimed invention “as a whole” would have been obvious to a person of ordinary skill in the art when the invention was unknown and just before it was made. MPEP §2142.

As outlined above, claims 1-24 remain of record. Accordingly, Applicants respectfully submit that Holsclaw, either alone or in combination with Scott and/or Yamada, fails to teach, suggest, or disclose each and every limitation of claims 1-24. For example, none of the cited references teach or suggest “a pump arranged along the feed water line upstream of the pressure chamber and configured to pump water to said pressure chamber when the pressure in the pressure chamber is greater than a pressure in the feed water line upstream of the pressure chamber” as required by independent claim 1. As noted by the Examiner on page 4 of the Office Action, Holsclaw fails to include any teaching or suggestion of this required limitation of claim 1.

Furthermore, Scott is contrastingly directed to “[a]n automatic shutdown filling system for gas blanketed liquid storage tanks” in which “[a]s the tank is being filled (by a high capacity filling pump),...when the rising liquid level reaches the tip of the probe, gas

outflow is blocked and liquid outflow is substantially impeded....[T]he tank pressure quickly rises by compression of the resulting trapped gas pocket, and a pressure switch shuts down the filling pump.” (Abstract). More specifically, Scott describes that “[a] transfer pump 12, driven by an electric motor 13 mechanically coupled thereto as by a direct shaft connection,...discharges into a filling or inlet line 14 which connects with a vertical charge tank 15 through the top head thereof” (col. 3, ll. 1-6), and that “[a] pressure switch 23...is coupled via leadwires 24 to the control circuit of motor 13....The switch comprises suitable contacts, either normally open or normally closed, which are operatively wired into the control circuit of motor 13 such that **the motor and pump are shut down upon occurrence of a predetermined overpressure condition in line 14.**” (Col. 3, ll. 32-42) (emphasis added).

That is, Scott describes a transfer pump 12 that is arranged upstream of a vertical charge tank 15 that is configured to stop discharging gas to the tank 15 when the pressure in an inlet line 14 from the pump 12 to the tank 15 is greater than a predetermined pressure. Scott further describes that “[t]he trip-out pressure of switch 23 is set somewhat higher than the normal pressure prevailing in line 14 during the filling operation....**The trip-out pressure should not be so high as to exceed the safe working pressure of tank 15.**” (Col. 3, ll. 64-70) (emphasis added). Thus, it is clear that, in Scott, the transfer pump 12 is configured to stop discharging gas to the vertical charge tank 15 when the pressure in an inlet line 14 from the pump 12 to the tank 15 is greater than a predetermined pressure, which is less than a safe working pressure of the tank 15. That is, in Scott, the transfer pump 12 is configured to not discharge gas to the tank 15 in situations where the pressure in the tank 15 is greater than the pressure upstream in the line 14 when the pressure upstream in the line 14 exceeds a predetermined pressure.

A transfer pump configured to stop discharging gas to a tank in situations where a pressure in the tank is greater than a pressure upstream in a inlet line leading to the tank when the pressure upstream in the inlet line exceeds a predetermined pressure, as described in Scott, is clearly not a pump arranged along a feed water line upstream of a pressure chamber that is configured to pump water to the pressure chamber when a pressure in the pressure chamber is greater than a pressure in the feed water line upstream of the pressure chamber, as required by claim 1. Moreover, Yamada fails to include any mention or suggestion of “a pump arranged along the feed water line upstream of the pressure chamber and configured to pump water to said pressure chamber when the pressure in the

pressure chamber is greater than a pressure in the feed water line upstream of the pressure chamber” as required by claim 1. For this reason alone, claim 1 is patentable over the cited references.

In addition, Applicants further note that a proper obviousness rejection that relies on a combination of prior art elements requires that “one skilled in the art **could have combined the elements as claimed by known methods with no change in their respective functions.**” MPEP 2143.02 (emphasis added). “If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art.” MPEP 2143. Accordingly, Applicant respectfully submits that there is no teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to combine the prior art reference teachings to arrive at the claimed invention.

In particular, Holsclaw describes “an apparatus for disinfecting water” in which “[w]ater is ozonated and provided for disinfecting water lines during a cleaning cycle and stored in a pressurized reservoir for use in a variety of dental instruments.” (Abstract). Holsclaw further describes that such a cleaning apparatus 10 includes “a water supply line 12, [and] a reservoir tank 20 for holding water....The supply line 12 provides water from the city water supply at standard pressures typically up to 60 psig; however, the preferred embodiment includes a pressure regulator to control the pressure of the water feed supply to about 30 to 40 psig....The supply line 12 extends into a cover or lid 19 removably mounted to the top of the reservoir 20. A valve, such as a ball valve, is preferably installed in the supply line 12 and operated manually, or by an air or electric solenoid or other actuator to shut off the water supply flowing to the reservoir 20. The city water flows through the supply line 12 into the reservoir.” (Col. 4, ll. 22-38). Holsclaw further describes that “[a] restriction valve 44 is placed within a return line 31 extending from the ozone water product line 33 to the supply line 12 in order to control the flow rate and maintain a desired positive pressure of the ozonated water flowing thorough the small diameter ozoneated water product line 33.” (Col. 5, ll. 27-32).

Thus, Holsclaw describes that while the supply line 12 provides water from the city water supply at standard pressures typically up to 60 psig, the cleaning apparatus 10 is configured to control the pressure of the water feed supply to about 30 to 40 psig, and a valve is installed in the supply line 12 and operated to shut off the water supply flowing to the reservoir 20.

On page 4 of the Office Action, the Examiner asserts, that “[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Holsclaw et al. by incorporating [the pump disclosed in Scott] in order to pump water into the chamber even when the pressure in the chamber is higher than the pressure in the feed water line.” Applicants, however, note that “[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” MPEP 2143.01. Moreover, “[t]he prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success.” MPEP 2143.02.

In this regard, Applicants note that incorporating the transfer pump 12 described in Scott, which is configured stop discharging gas to a tank 15 in situations where the pressure in an inlet line 14 from the pump 12 to the tank 15 exceeds a predetermined pressure, into the supply line 12 described in Holsclaw, would clearly render the cleaning apparatus described in Holsclaw unsatisfactory for its intended purpose of continually providing water from the city water supply to the reservoir.

Therefore, Applicants respectfully submit that even were Scott to teach or suggest “a pump arranged along the feed water line upstream of the pressure chamber and configured to pump water to said pressure chamber when the pressure in the pressure chamber is greater than a pressure in the feed water line upstream of the pressure chamber” as required by claim 1, for at least the reason that modification proposed by the Examiner would render Holsclaw unsuitable for its intended purpose, a person of ordinary skill in the art would not have been motivated to modify the cleaning apparatus 10 described in Holsclaw by incorporating the transfer pump 12 described in Scott to achieve the invention recited in claim 1. Accordingly, Applicants respectfully submit that the teachings of Scott are not sufficient to render claim 1 *prima facie* obvious.

For at least these reasons, Applicants respectfully submit that Holsclaw, either alone or in combination with Scott and/or Yamada, fails to teach, disclose, or suggest each and every limitation of claim 1 and, therefore, that claim 1 is now in condition for allowance. For at least similar reasons to those discussed above with reference to claim 1, Applicants respectfully submit that Holsclaw, either alone or in combination with Scott and/or Yamada, fails to teach, disclose, or suggest either of the similar limitations required by independent claim 14 of “when the pressure in the pressure chamber is greater than a pressure in the feed water line upstream of the pressure chamber, pumping water to the pressure chamber using a

pump arranged along the feed water line upstream of the pressure chamber” and, therefore, that claim 14 is also now in condition for allowance.

Where an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. *In re Fine*, 5 U.P.S.Q.2d 1596, 1598 (Fed. Cir. 1988). Because claims 2-13 and claims 15-24 depend either directly or indirectly from claims 1 and 14 respectively, Applicants respectfully submit that Holsclaw, either alone or in combination with Scott and/or Yamada, does not render obvious claims 2-13 and claims 15-24 for at least the reasons set forth above that it does not render obvious claims 1 and 14 respectively and, therefore, that claims 2-13 and 15-24 are also now in condition for allowance.

Therefore, Applicants respectfully submit that the present invention as claimed is distinguishable and thereby allowable over the prior art of record.

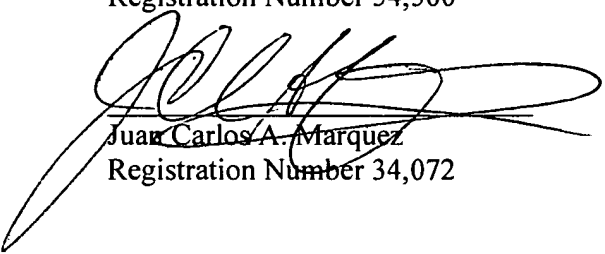
Conclusion

In view of all the above, Applicants respectfully submit that certain clear and distinct differences as discussed exist between the present invention as claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient to establish that the present invention as claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

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